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FIG. 1A

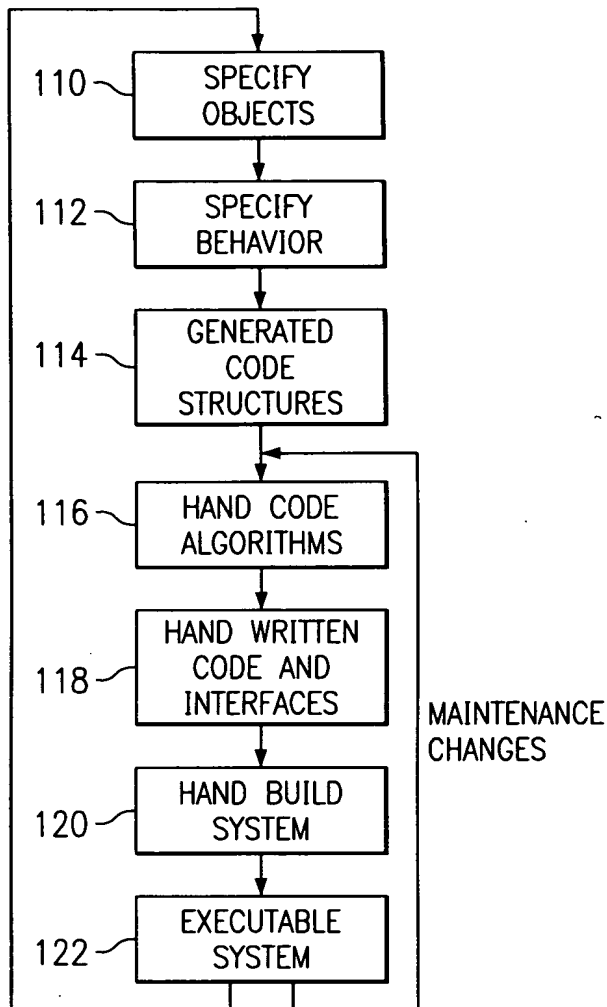


FIG. 1B

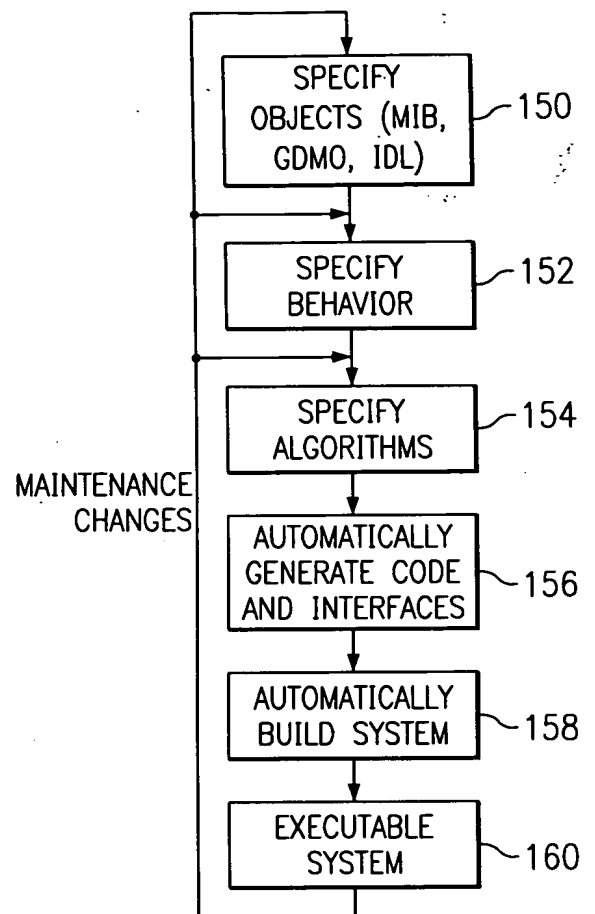
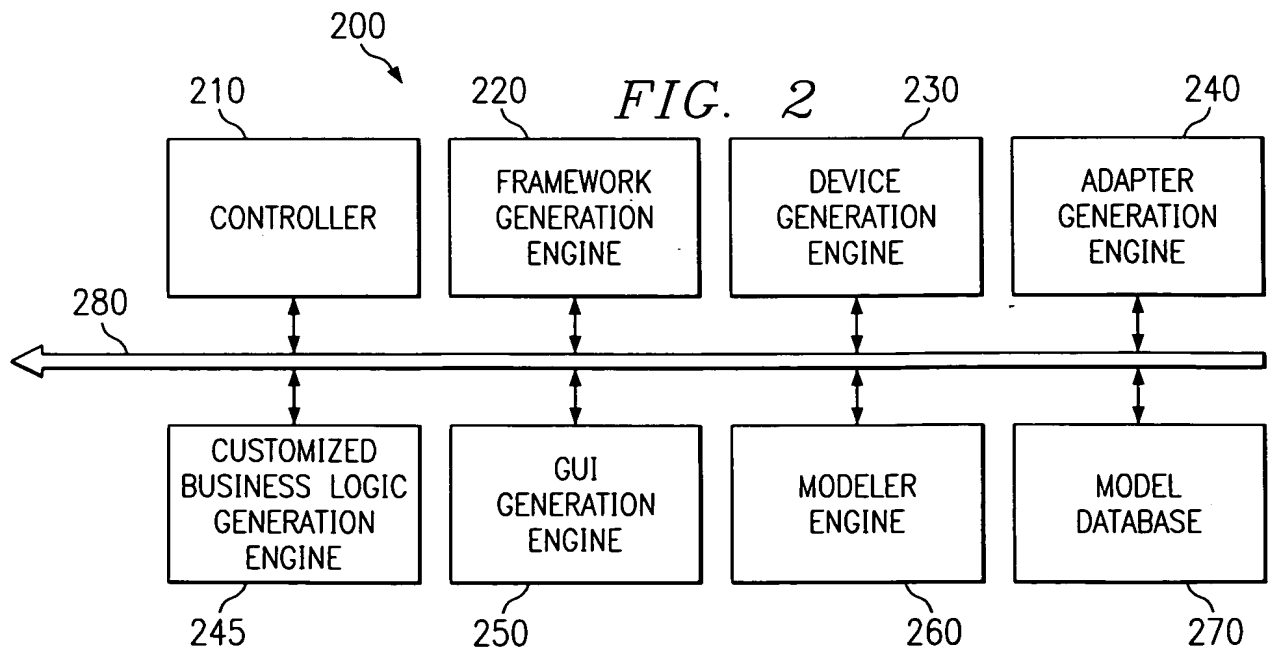


FIG. 2



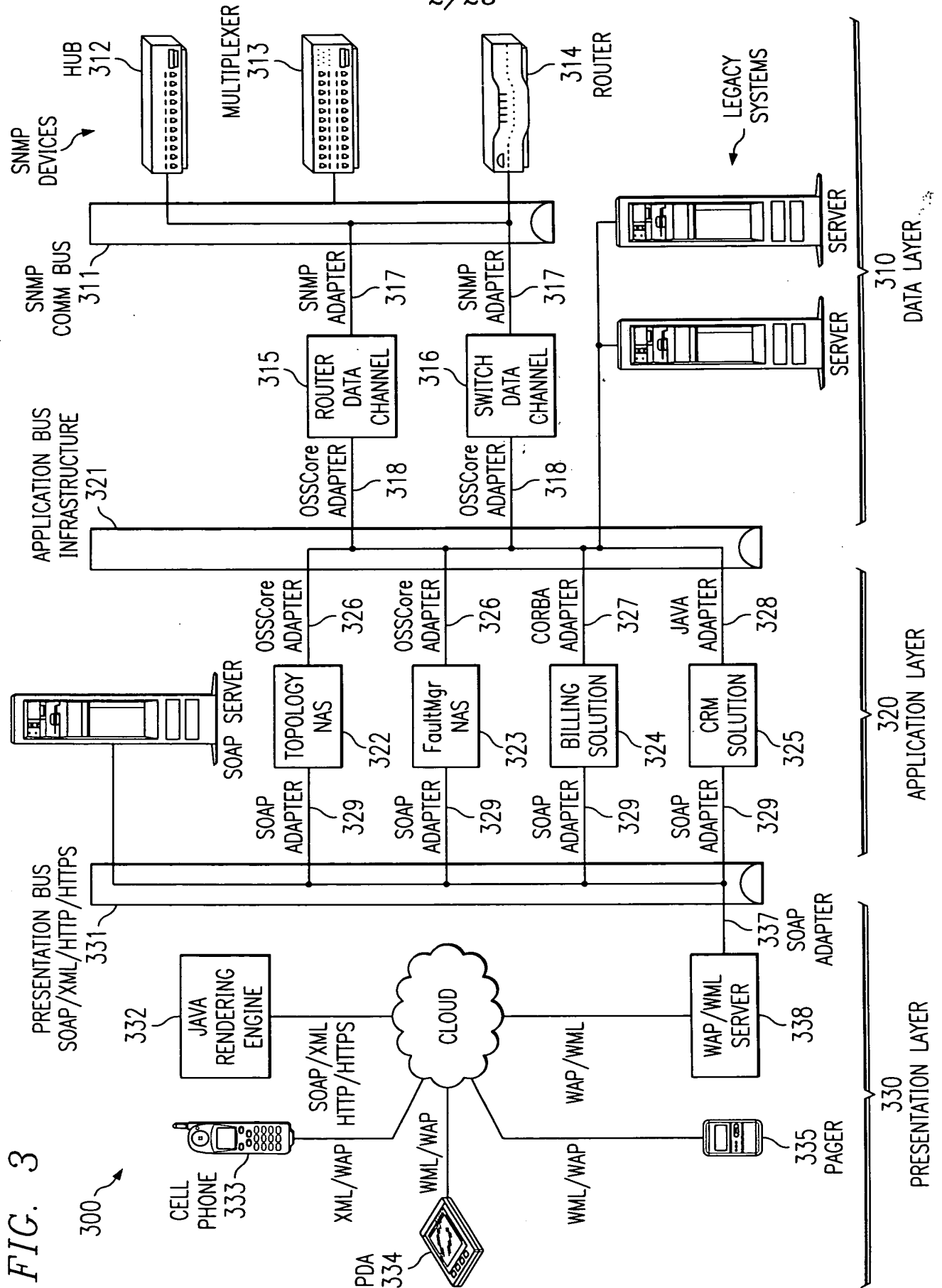


FIG. 4

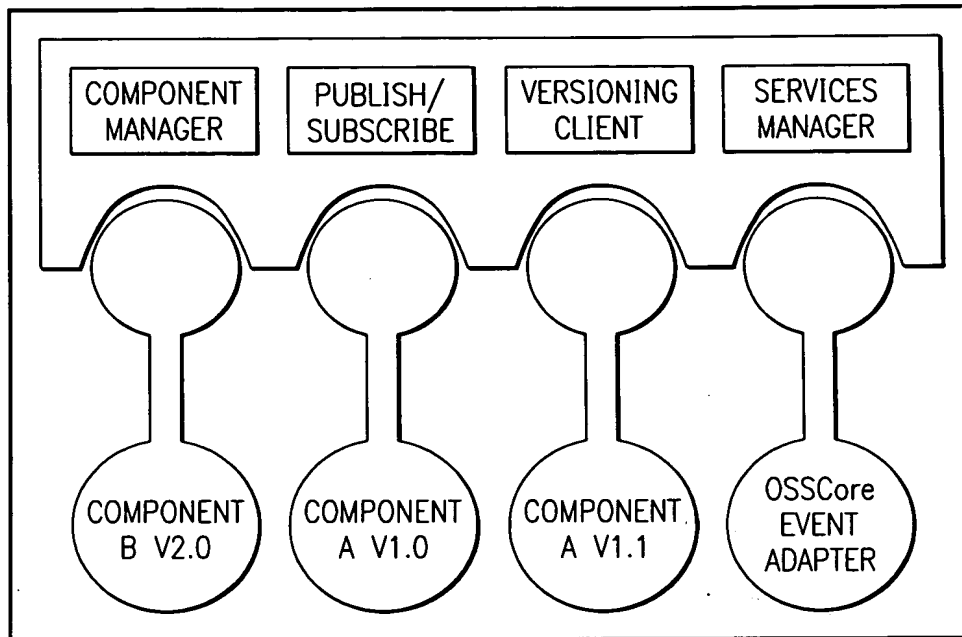


FIG. 5

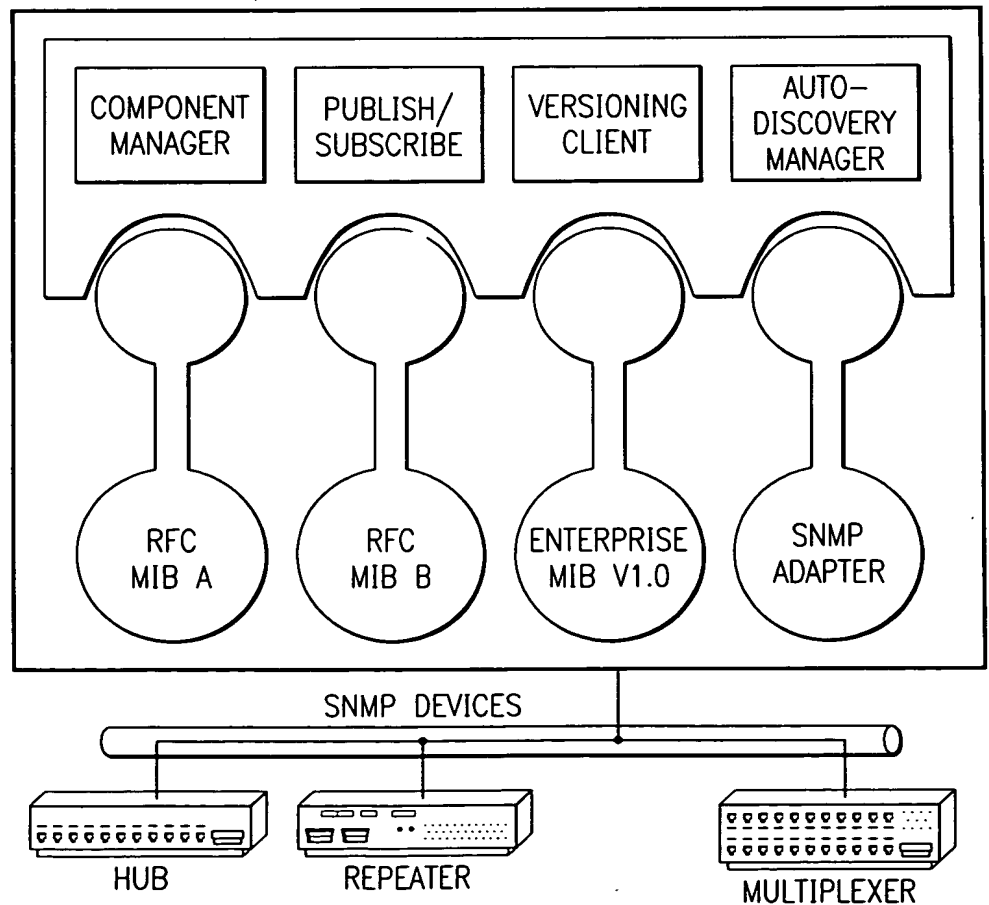


FIG. 6

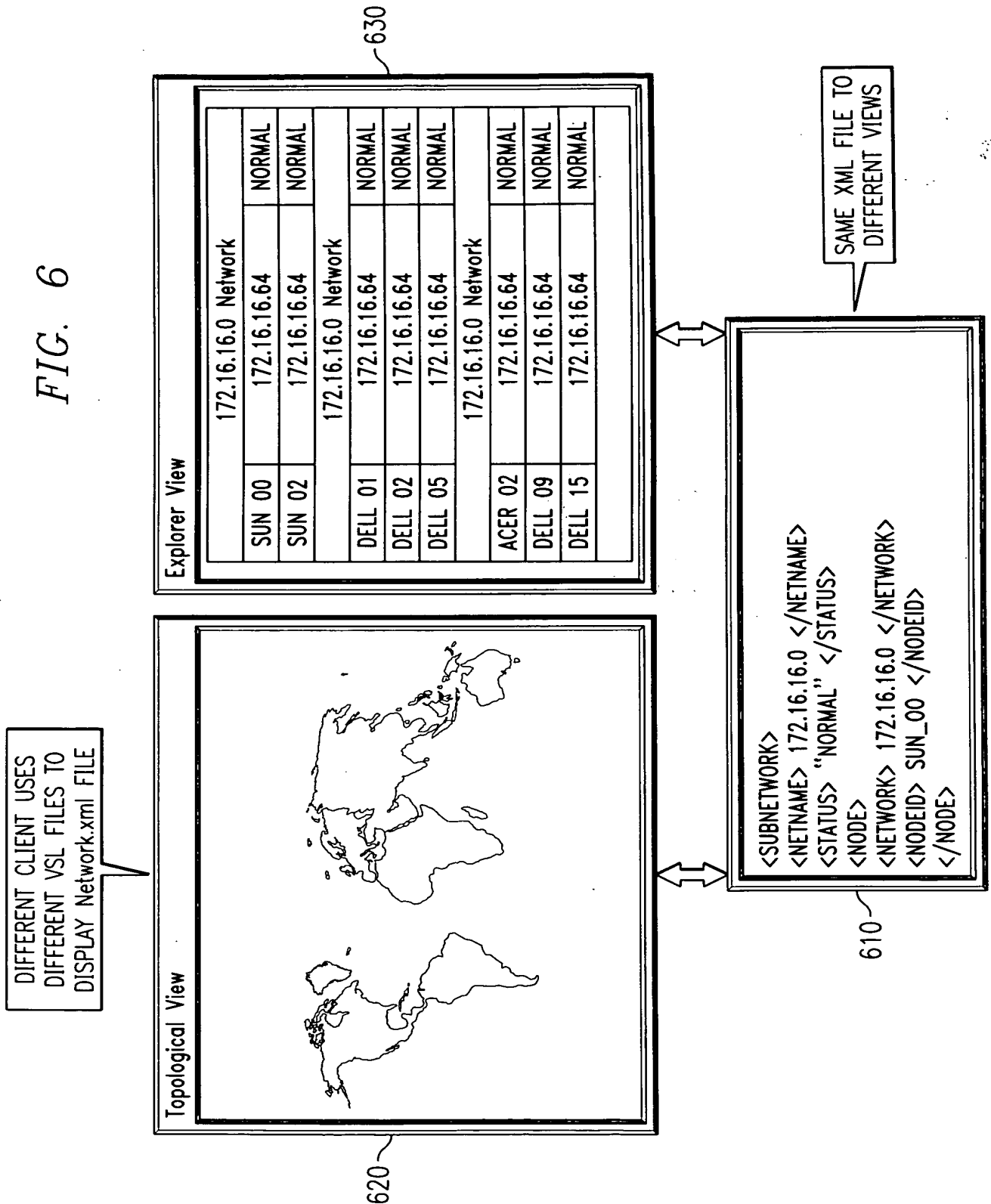


FIG. 7

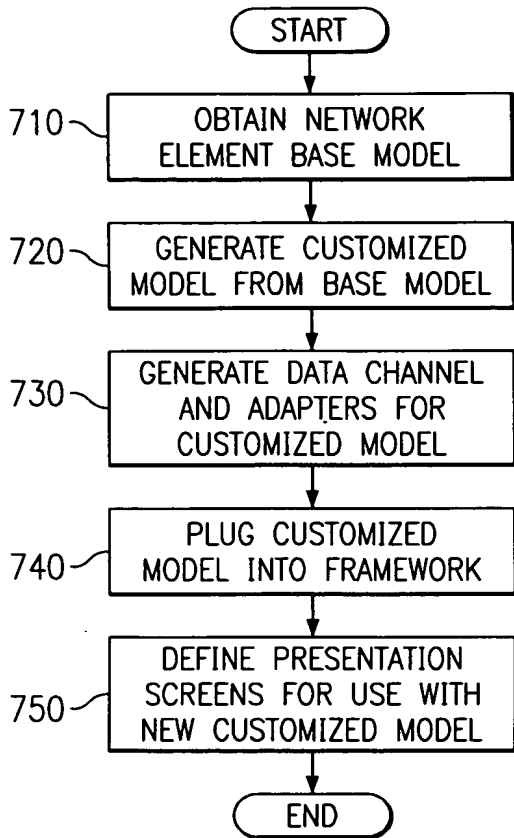


FIG. 8

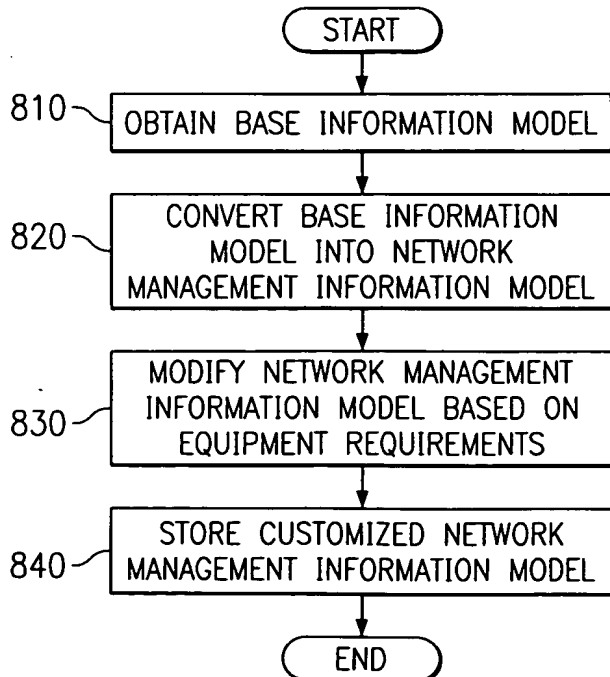


FIG. 9

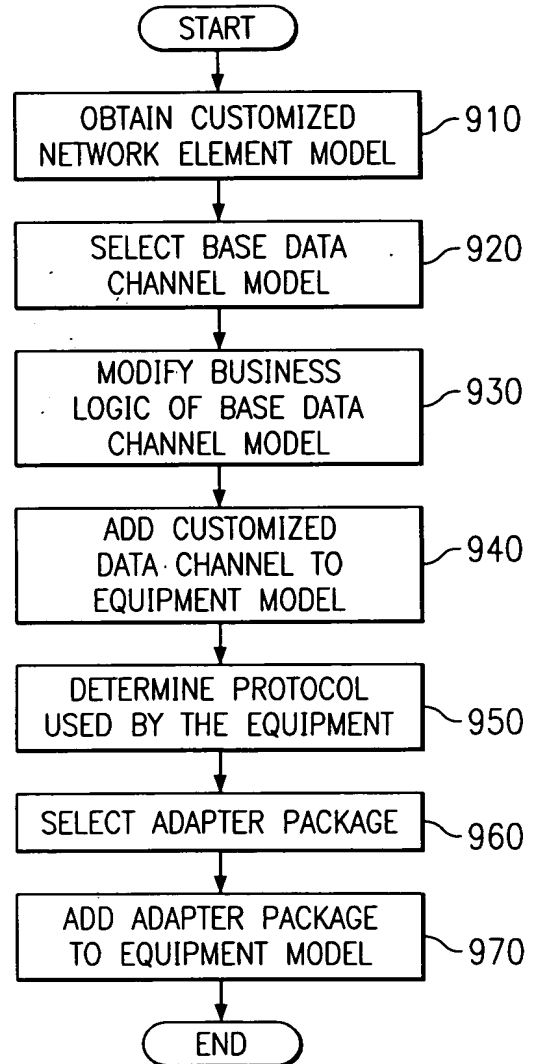
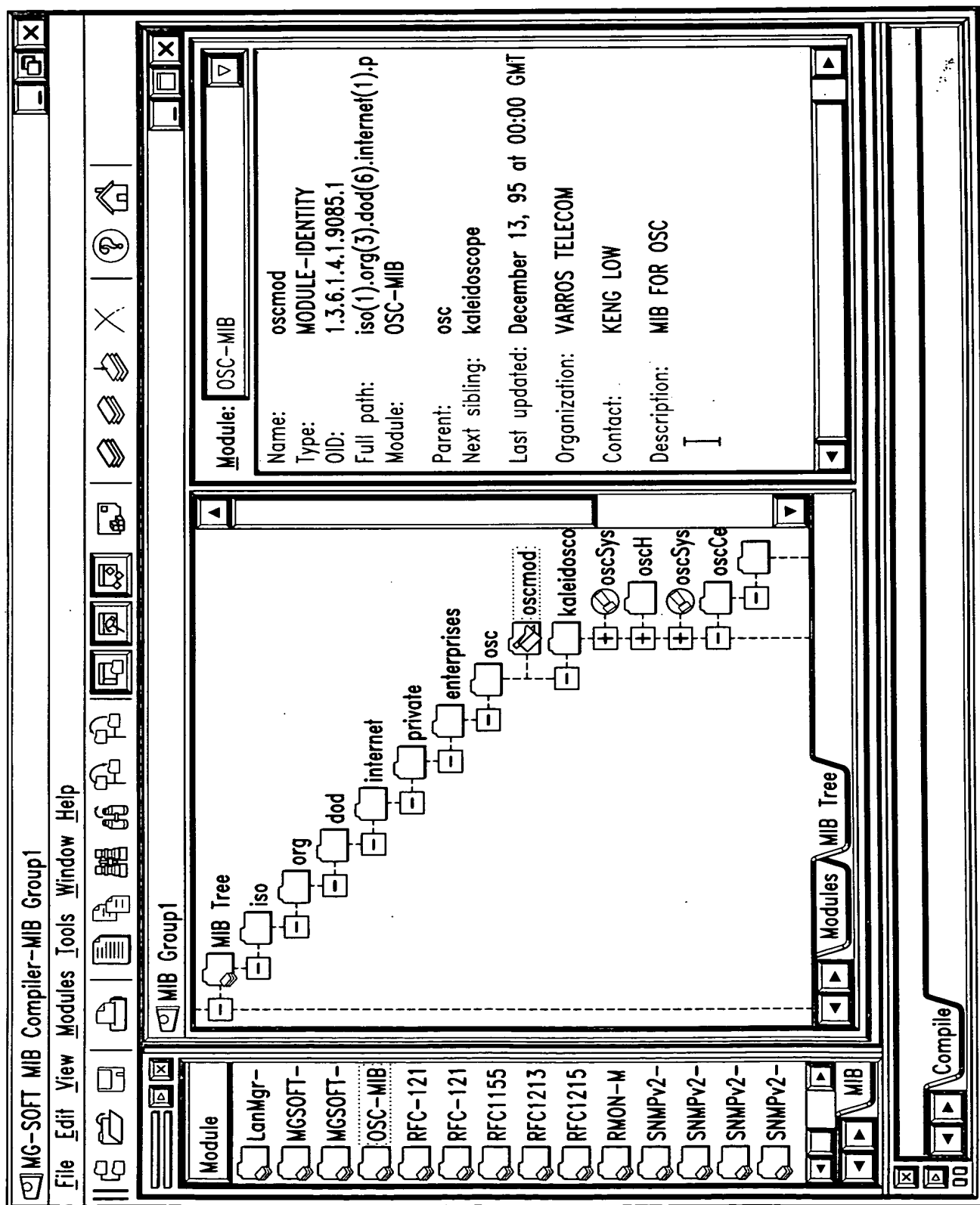


FIG. 10



# Customizable Element Management System and Method Using Element Modeling and Protocol Adapters

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FIG. 11

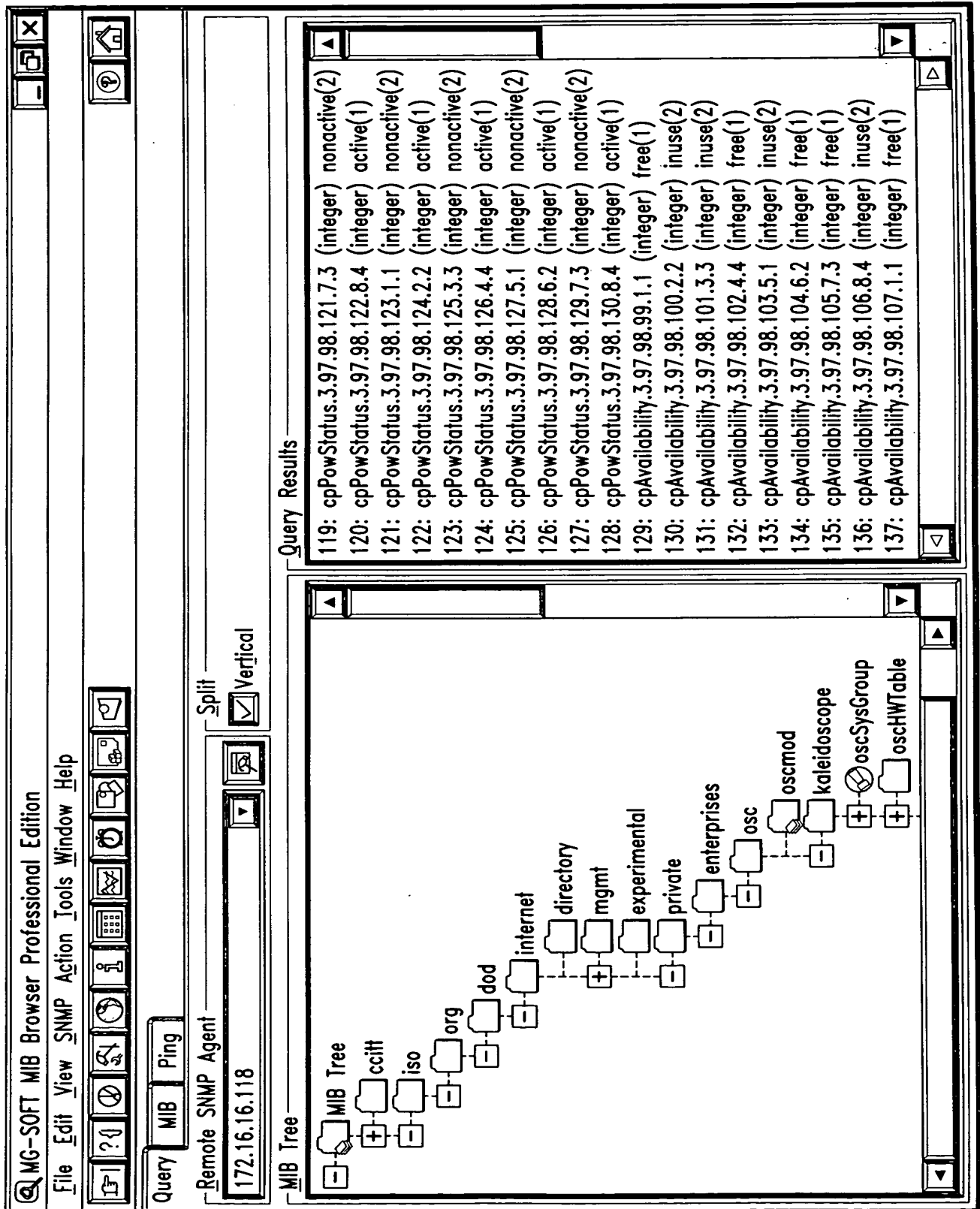
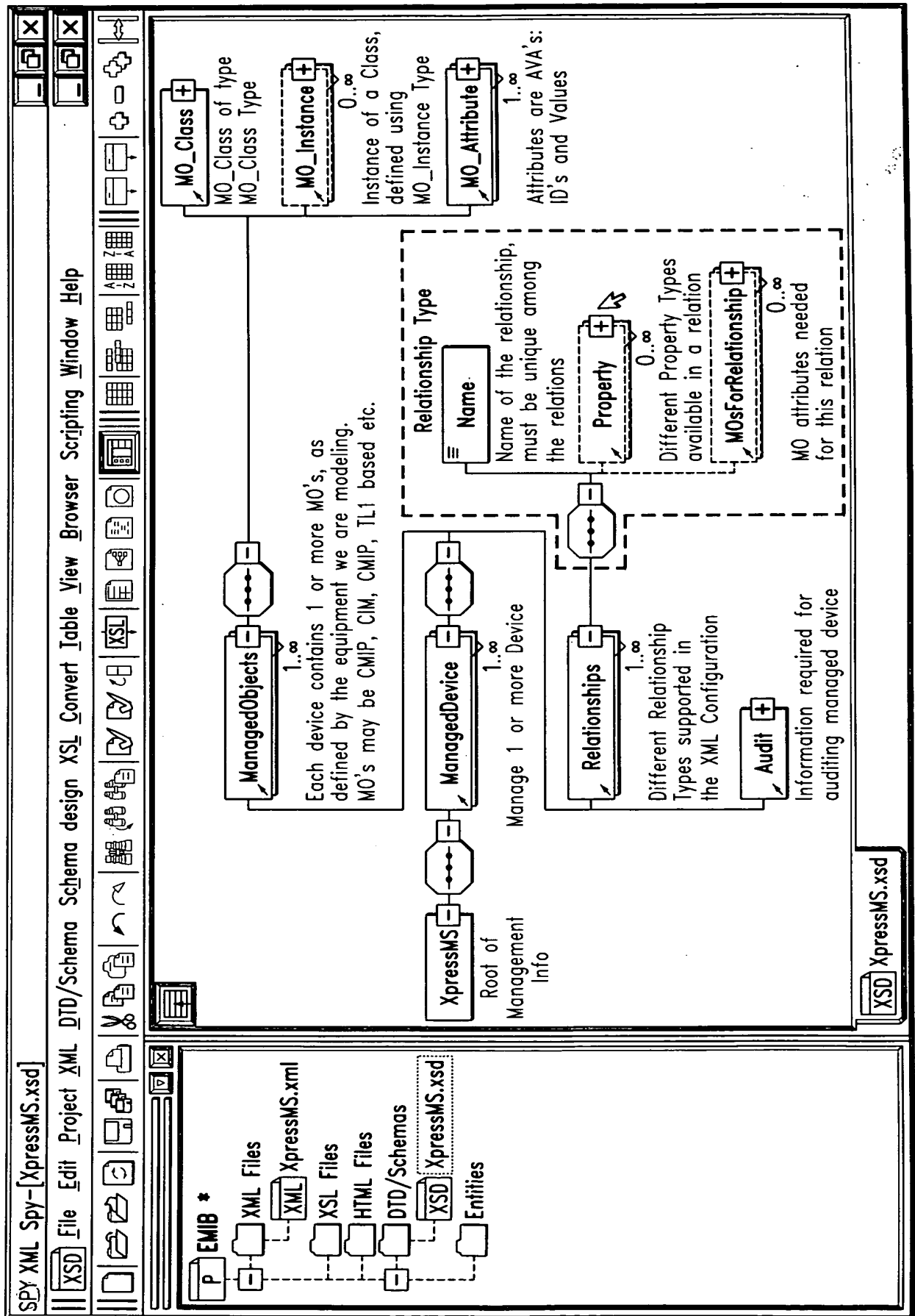


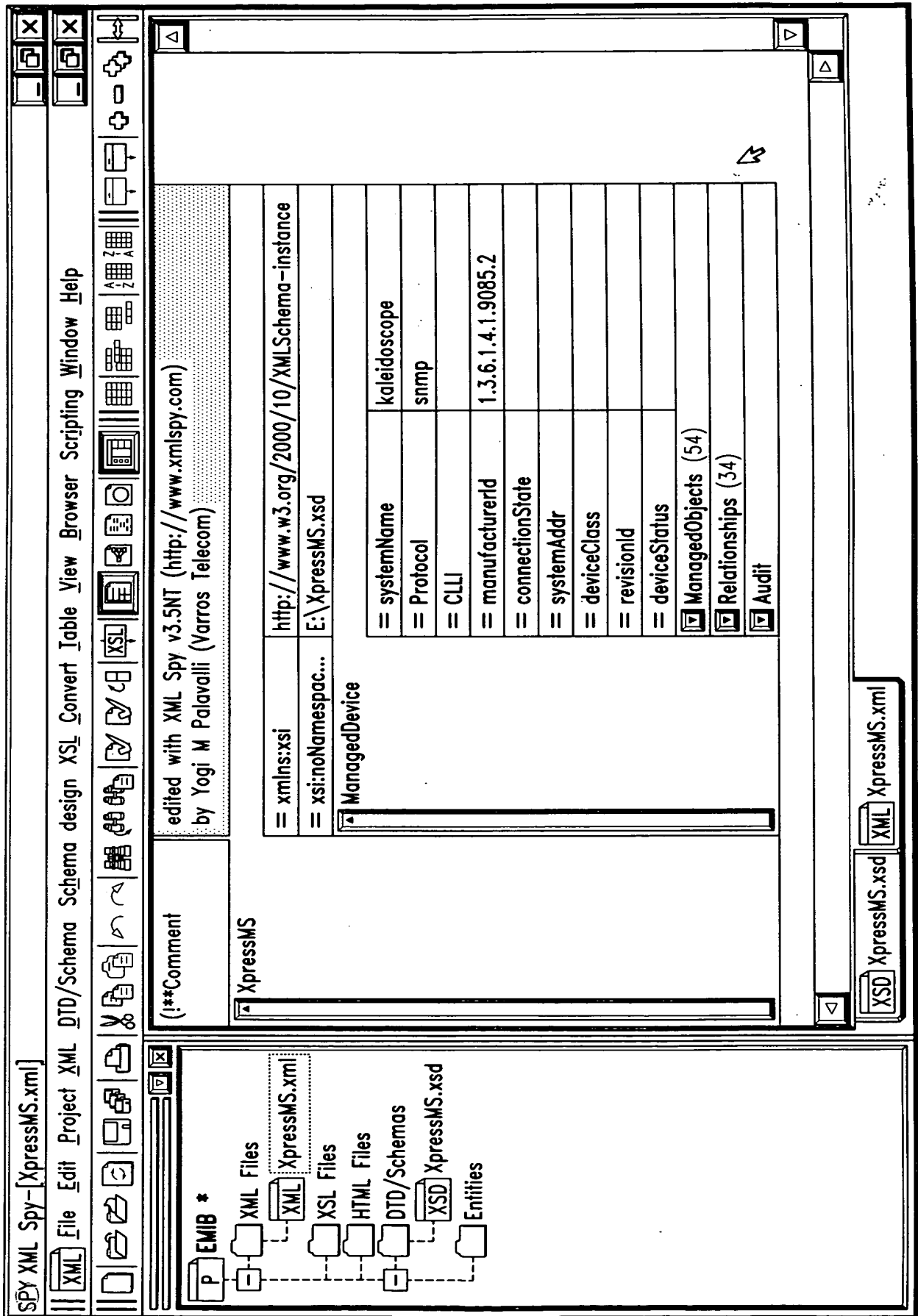
FIG. 12





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FIG. 13



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FIG. 14

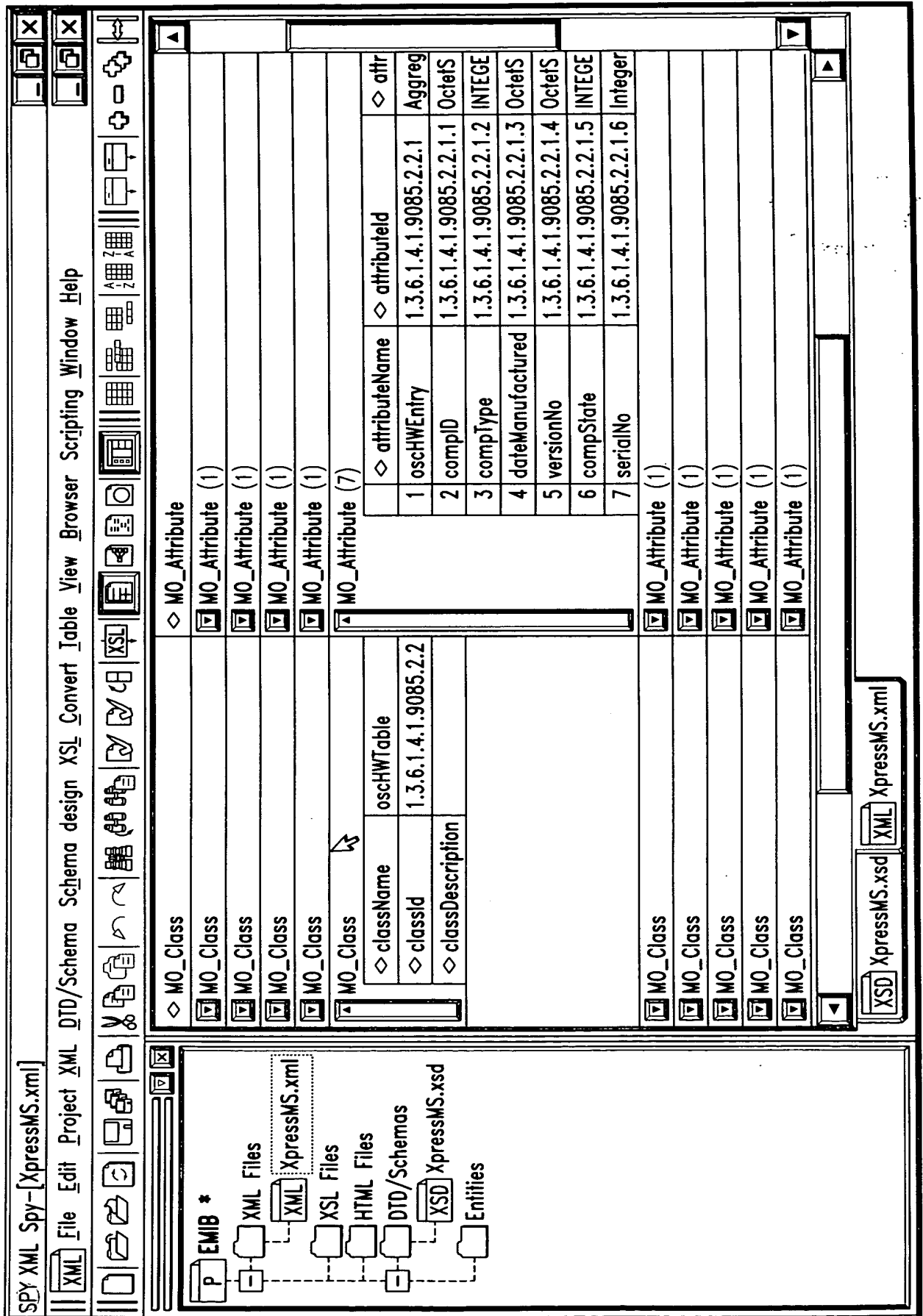
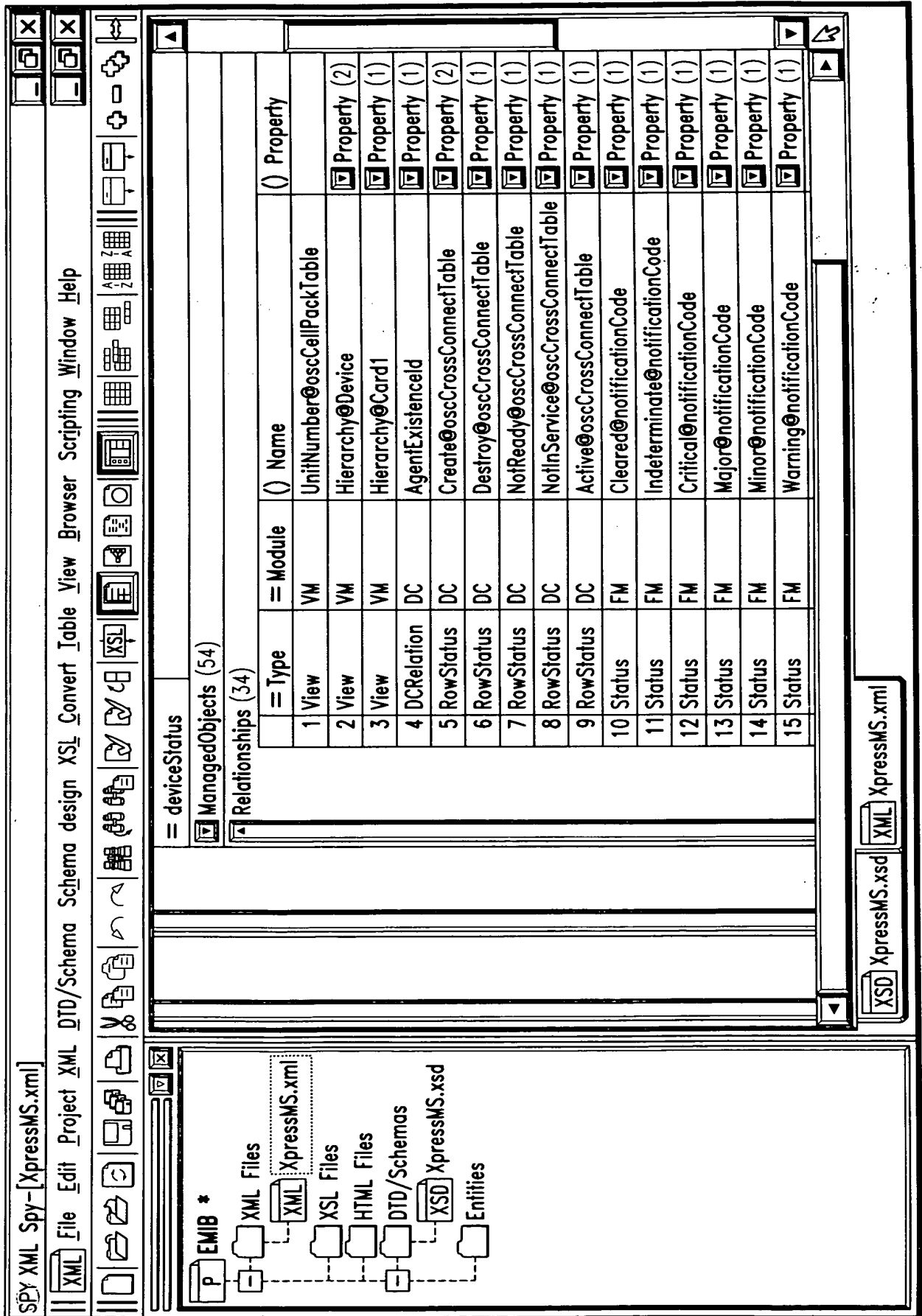


FIG. 15



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FIG. 16

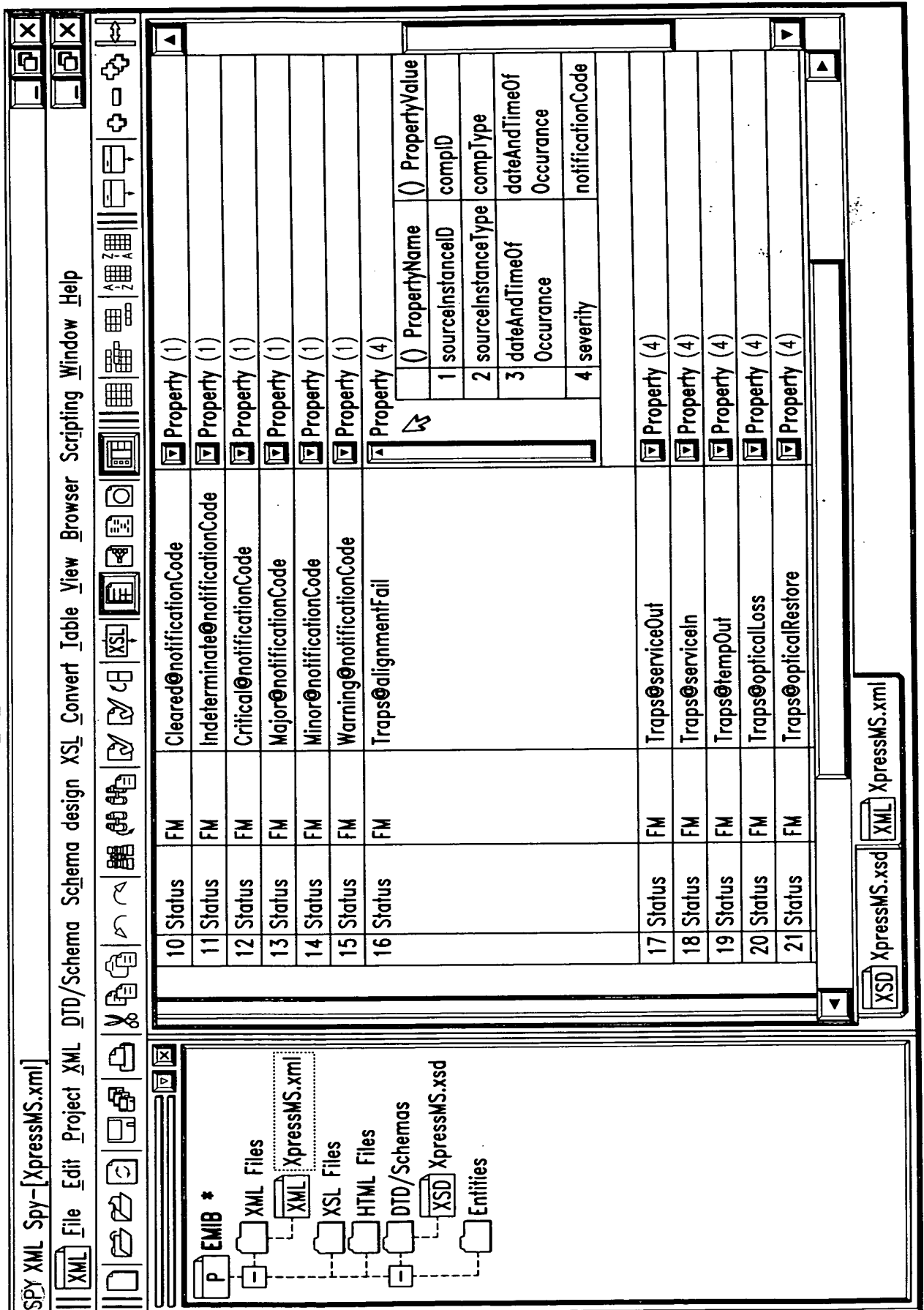


FIG. 17

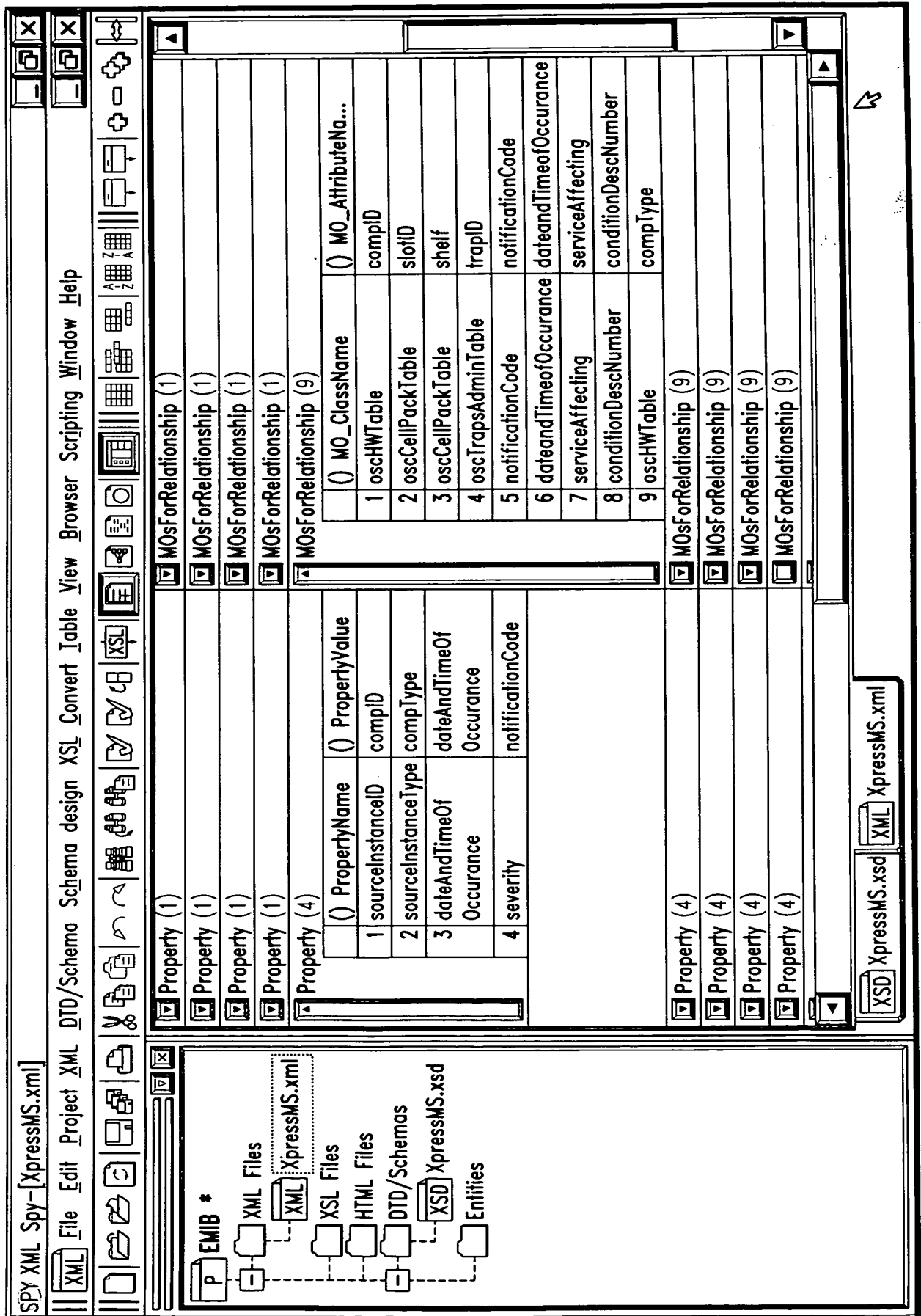


FIG. 18

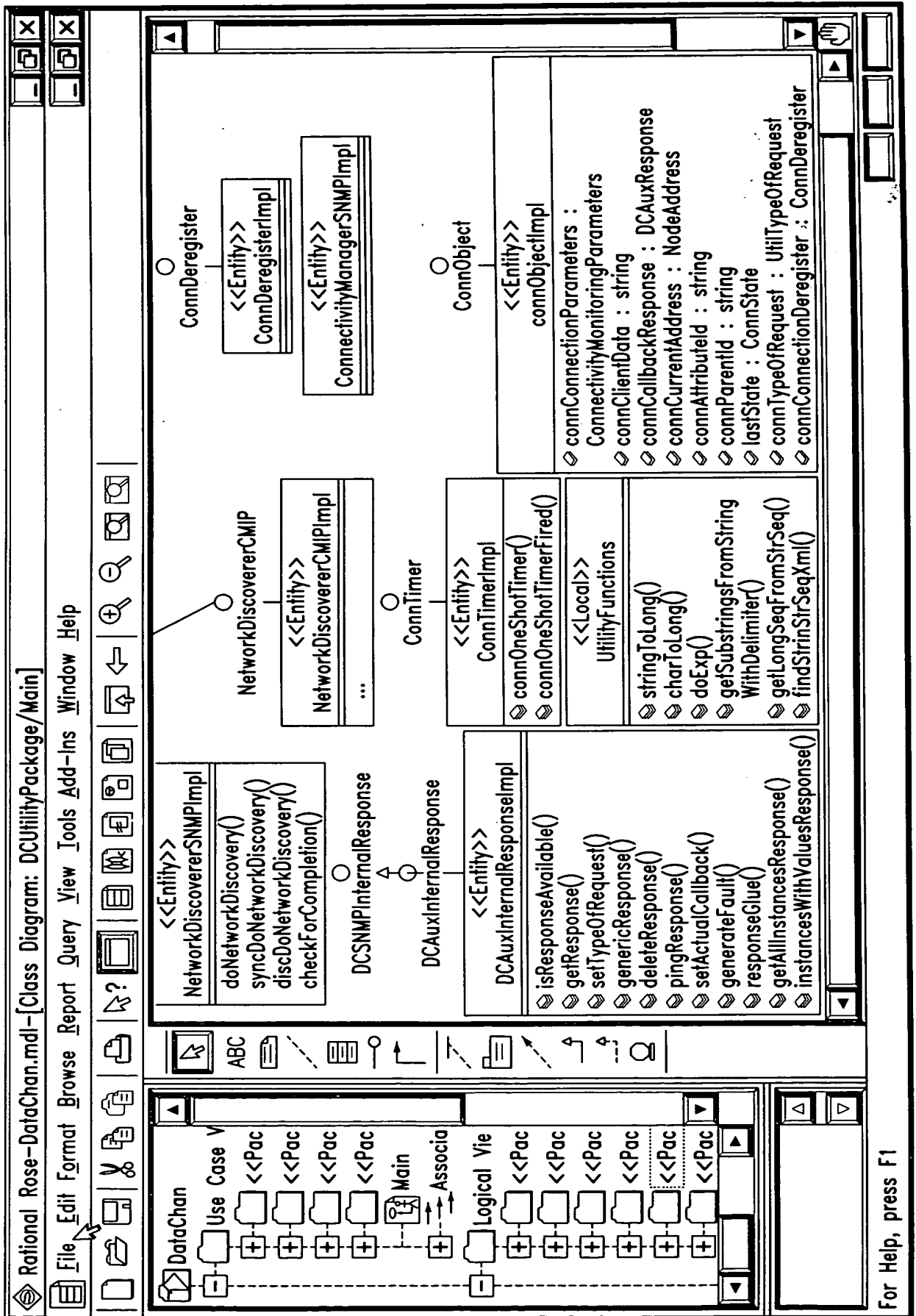


FIG. 19

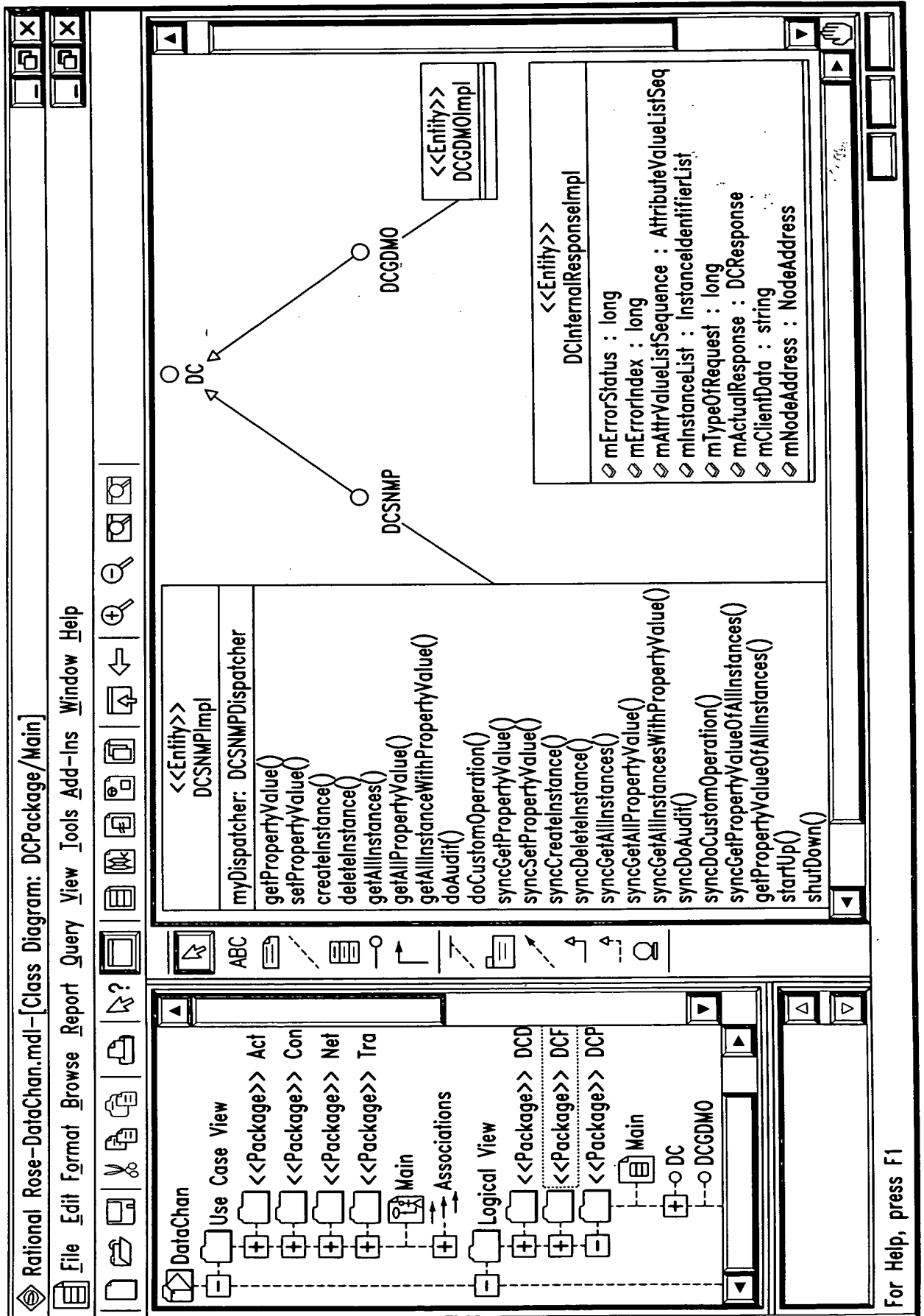


FIG. 21

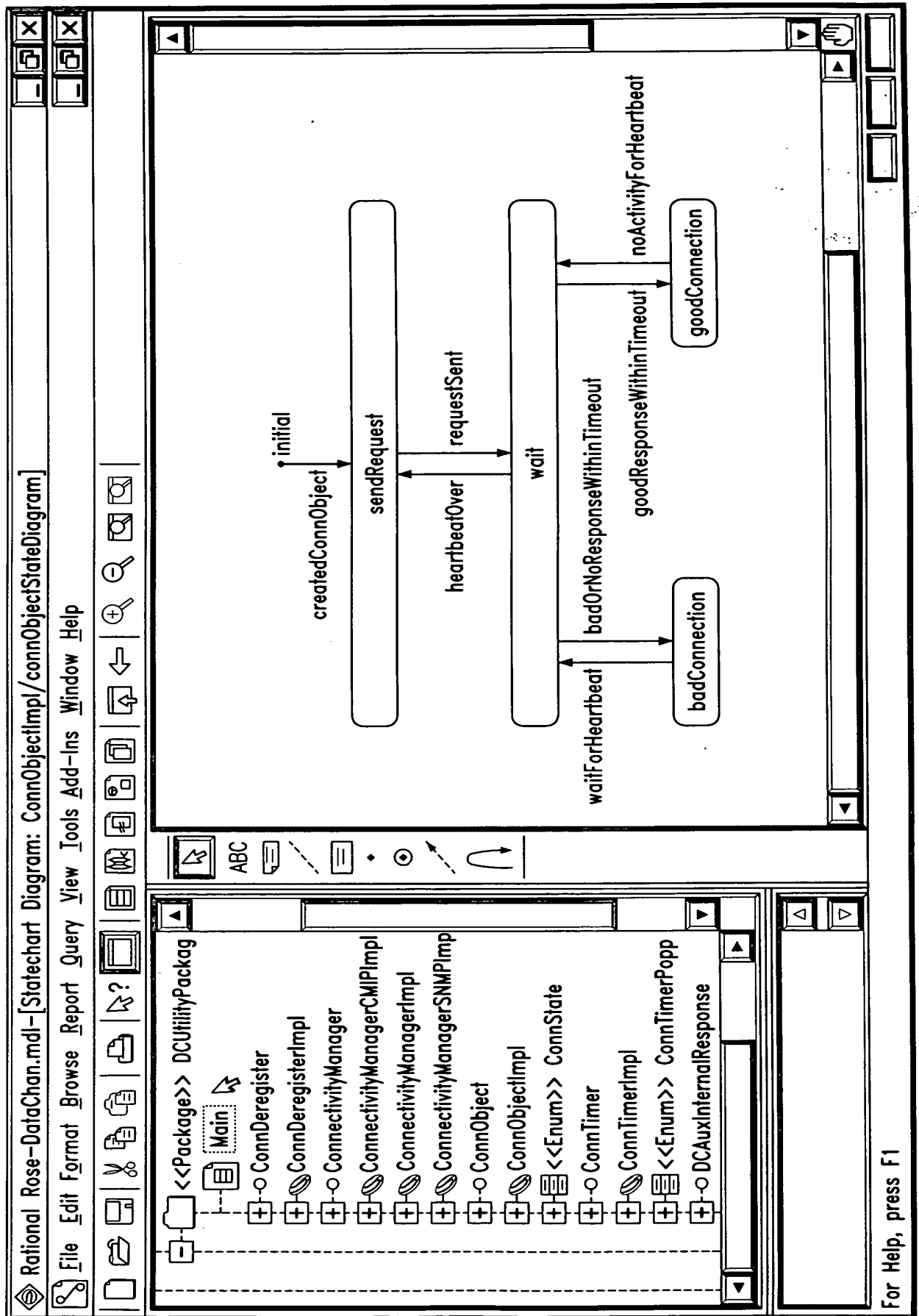




FIG. 22

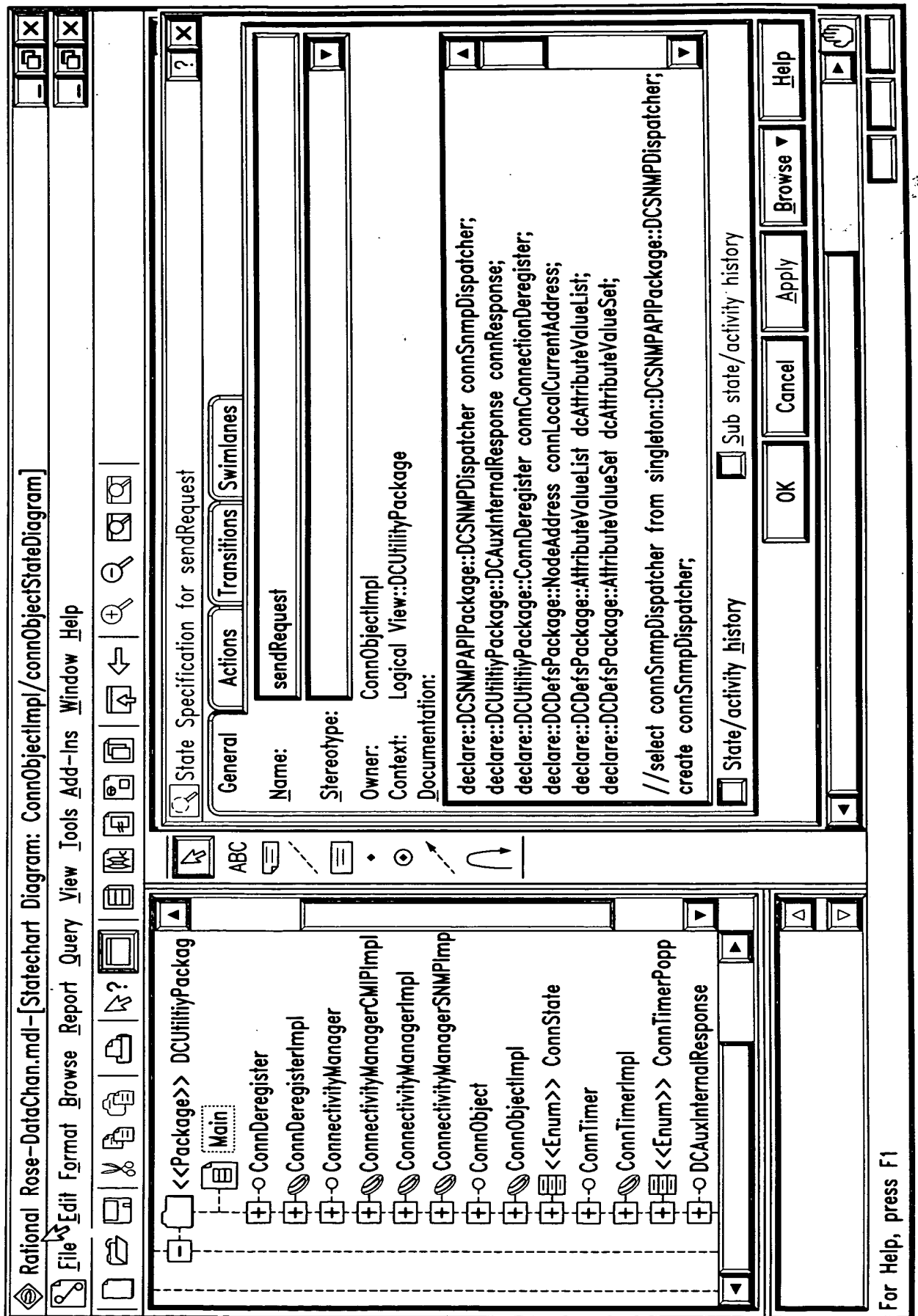


FIG. 23

The figure shows a software development environment with two main windows. The top window is titled "Operation Specification for getConnectivityManager" and contains several tabs: General, Detail, Preconditions, Semantics, Postconditions, Files, and ObjectSwitch. The "Detail" tab is active, showing the following fields:

- Name: getConnectivityManager
- Return Type: LogicalView::DCUtilityPackage::ConnectivityManager
- Stereotype: (empty)
- Export Control: (empty)
- Visibility: ☒ Public, ☐ Protected, ☐ Private, ☐ Implementation
- Documentation:
 

```

/*This method is called by the DCCClient to get a connectivity manager
reference with which it needs to interact. */

//We have a single connectivity Manager for both the protocols.
declare::DCUtilityPackage::ConnectivityManager myConnectivityManager;
select myConnectivityManager from singleton::DCUtilityPackage::ConnectivityManager;
return myConnectivityManager;

```

The bottom window is a code editor showing the implementation of the method. The code is as follows:

```

:DCFactoryImpl: :_getConnectivityManager(
management Protocol)

ebug, "Executing method DCFactoryImpl: :getConn
ectivityManager");

myConnectivityManager;
e(), getTranEnv());

ectivityManager

1;
(getEngine(), getTranEnv());
etExtentSet(&myConnectivityManager_extent1);
llection(myConnectivityManager_extent1, CGIterator
myConnectivityManager::DomainId,
DCUtilityPackage: :ConnectivityManager: :typeid);
myConnectivityManager_extent1.detachObject();

while (myConnectivityManager_iter1.next(&myConnectivityManager))
{
    if (1)
    {

```

FIG. 24

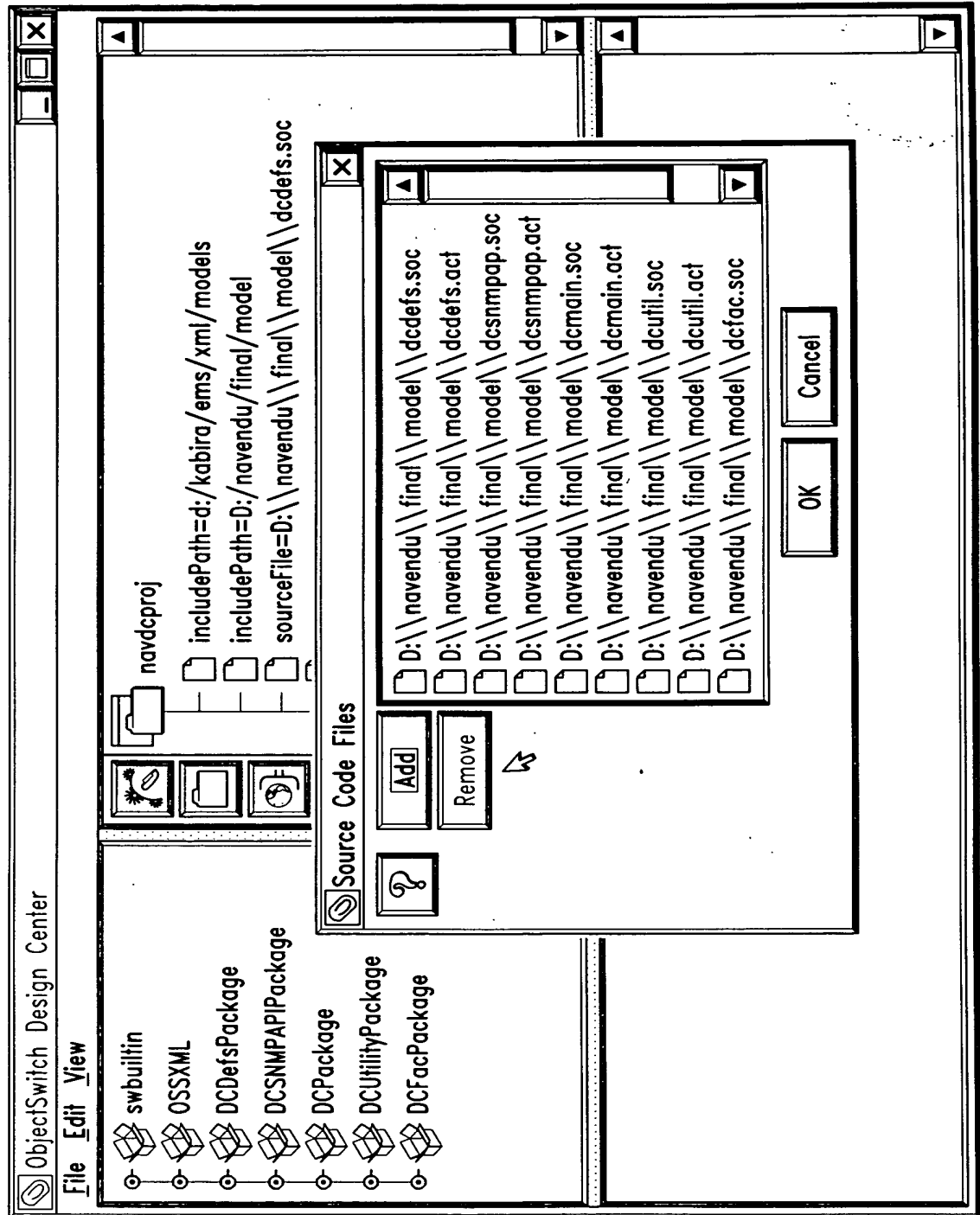


FIG. 25

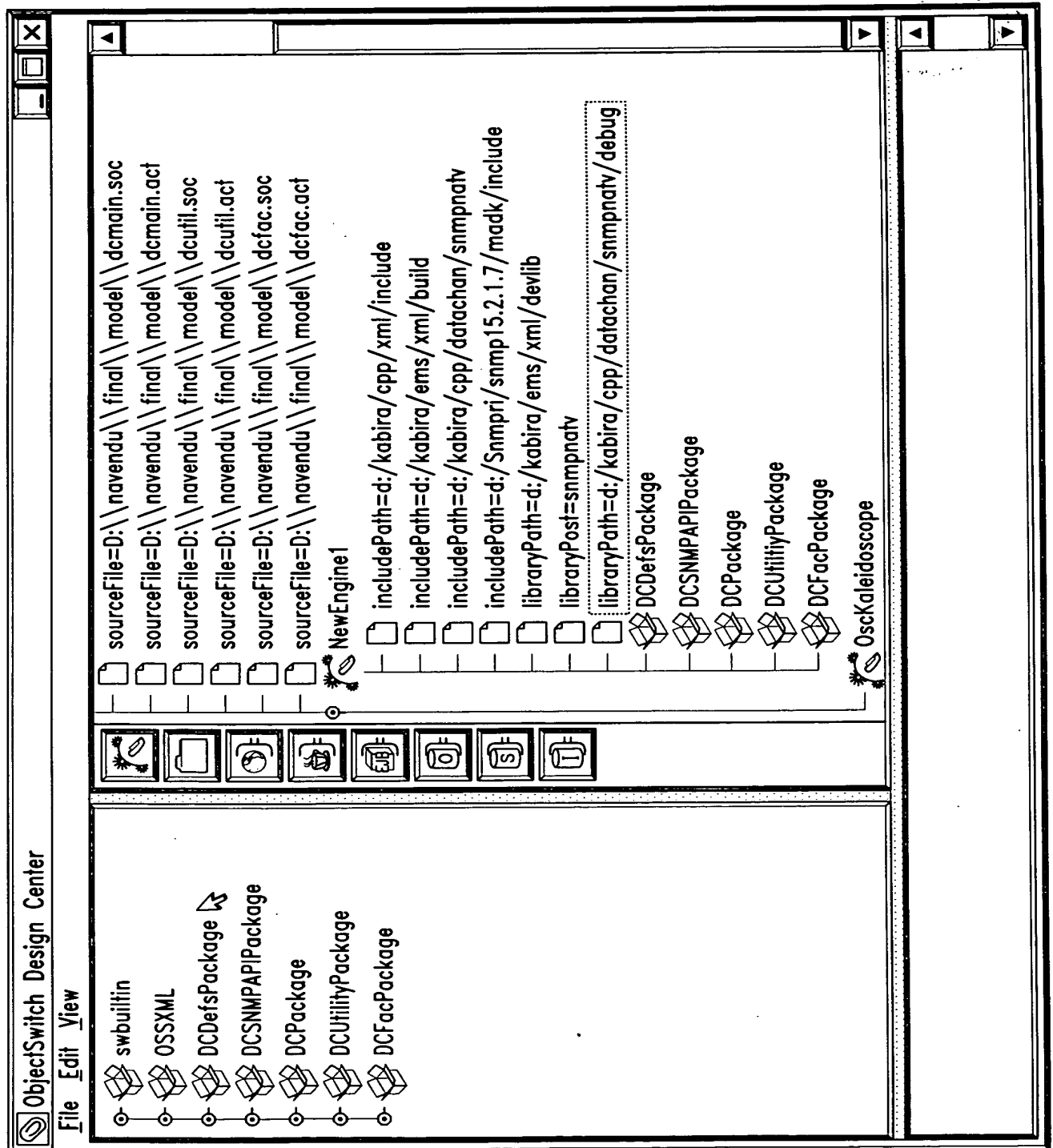


FIG. 26

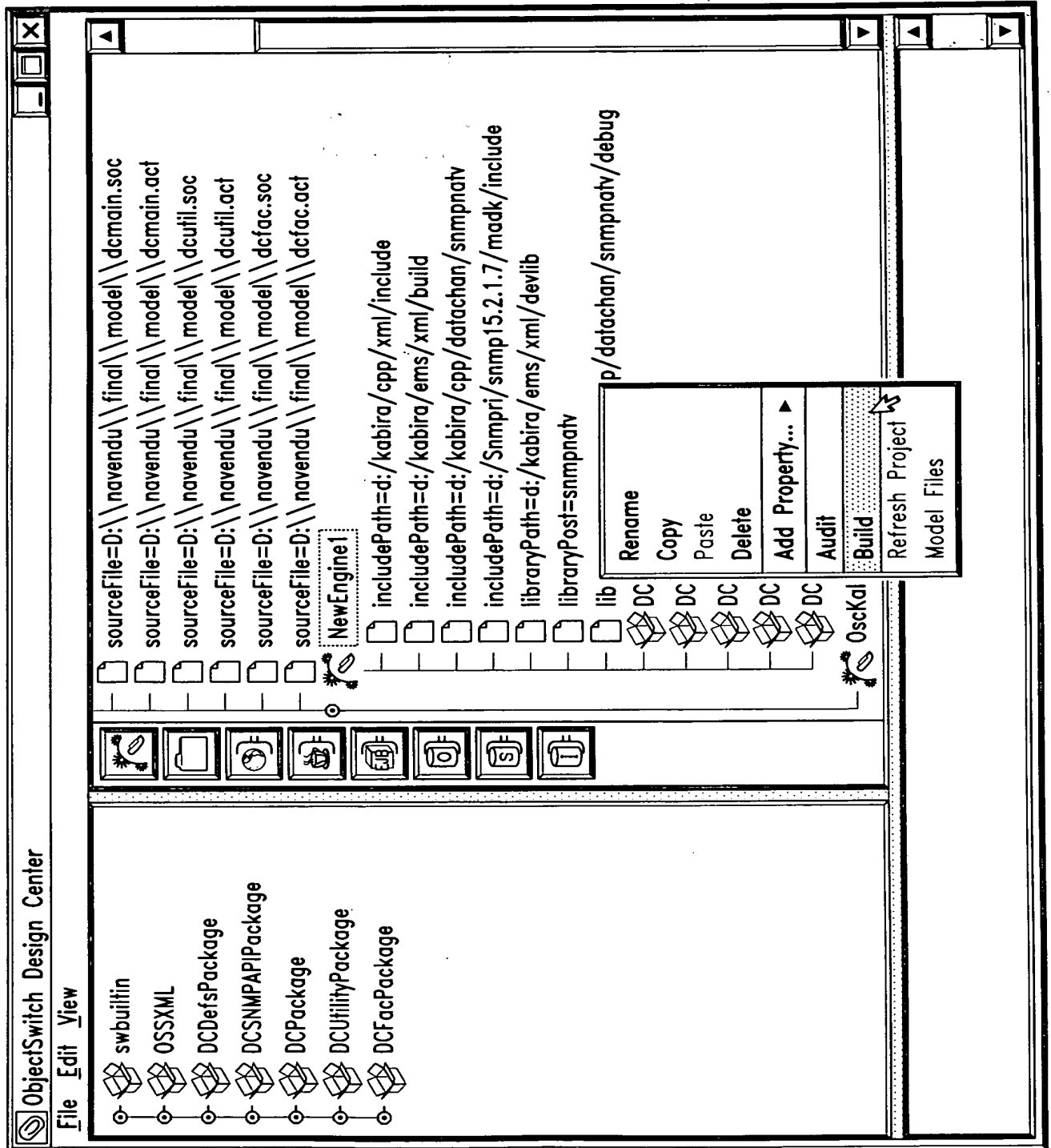


FIG. 27

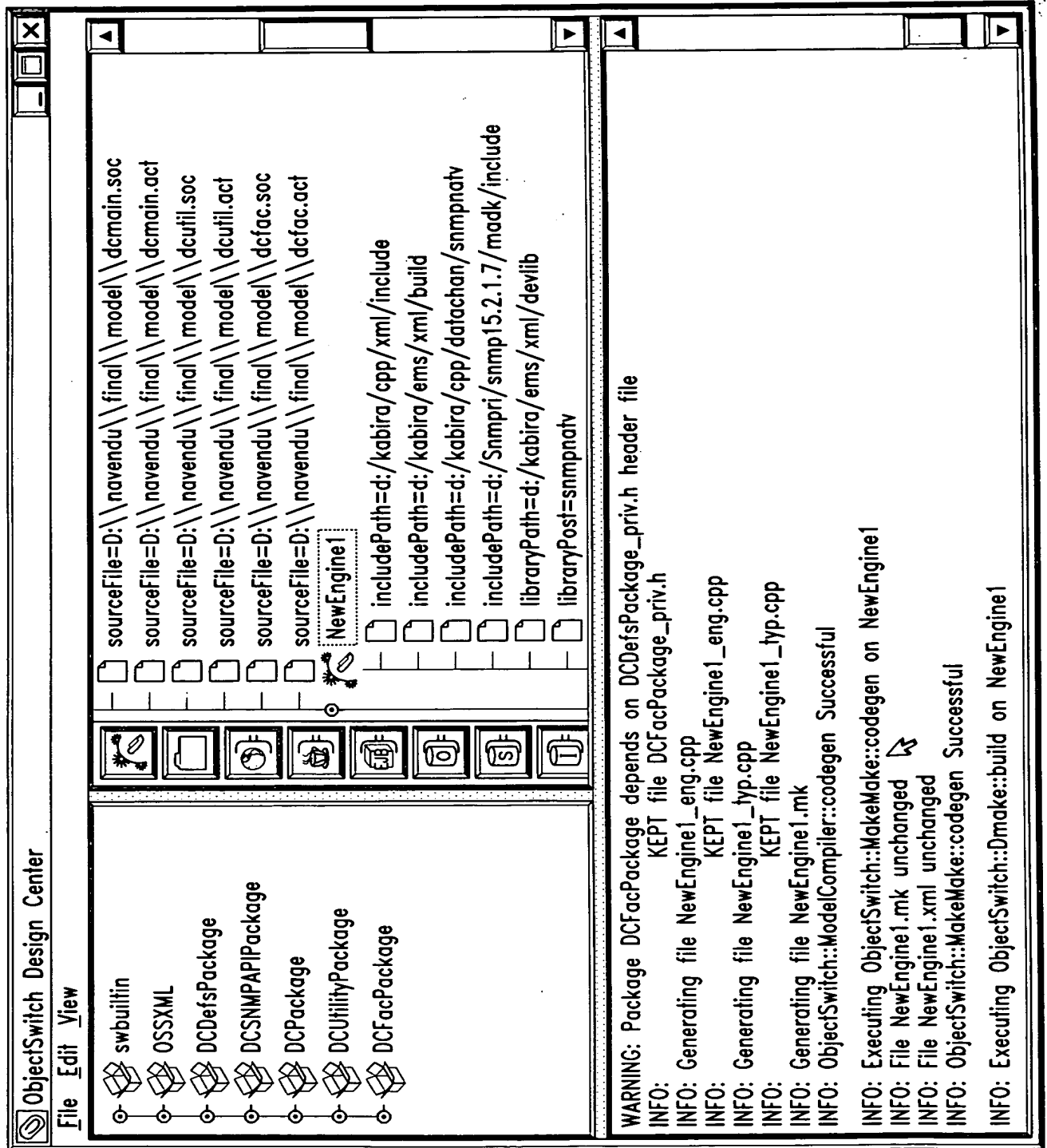


FIG. 28

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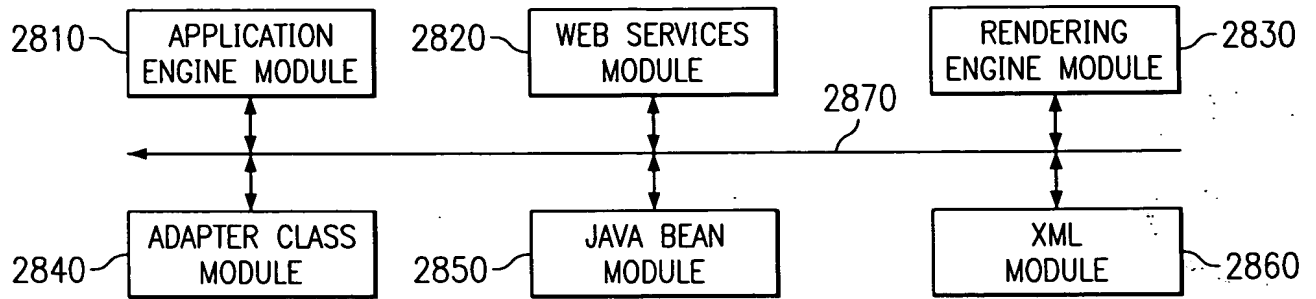


FIG. 29

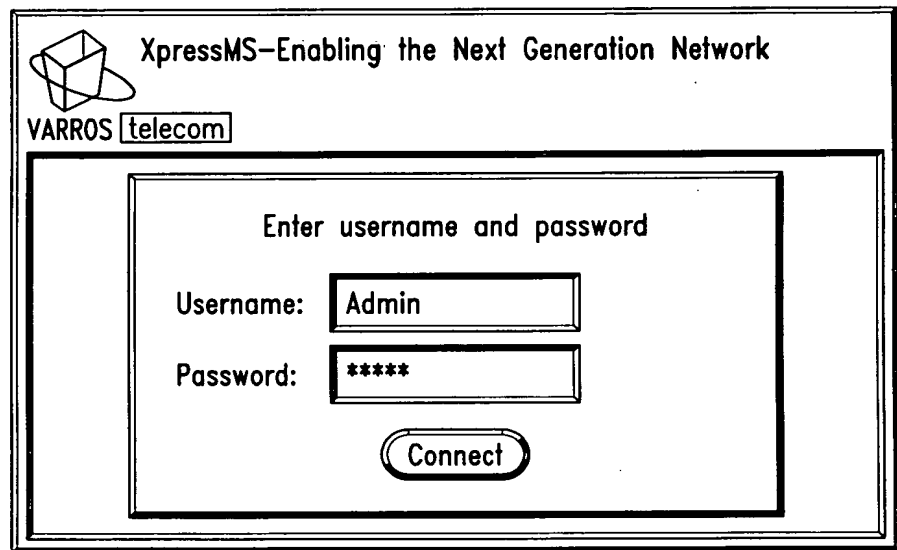


FIG. 34

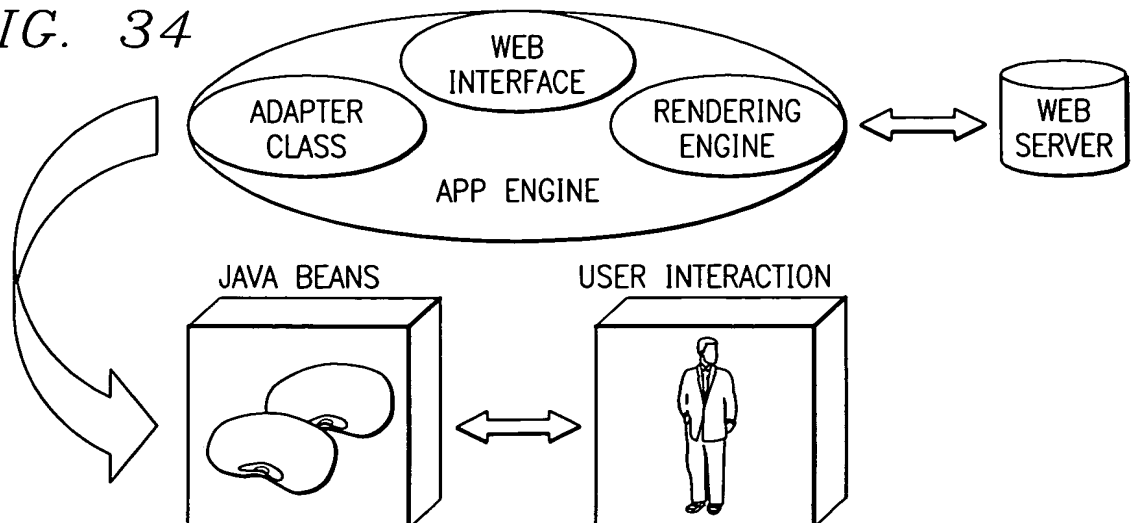
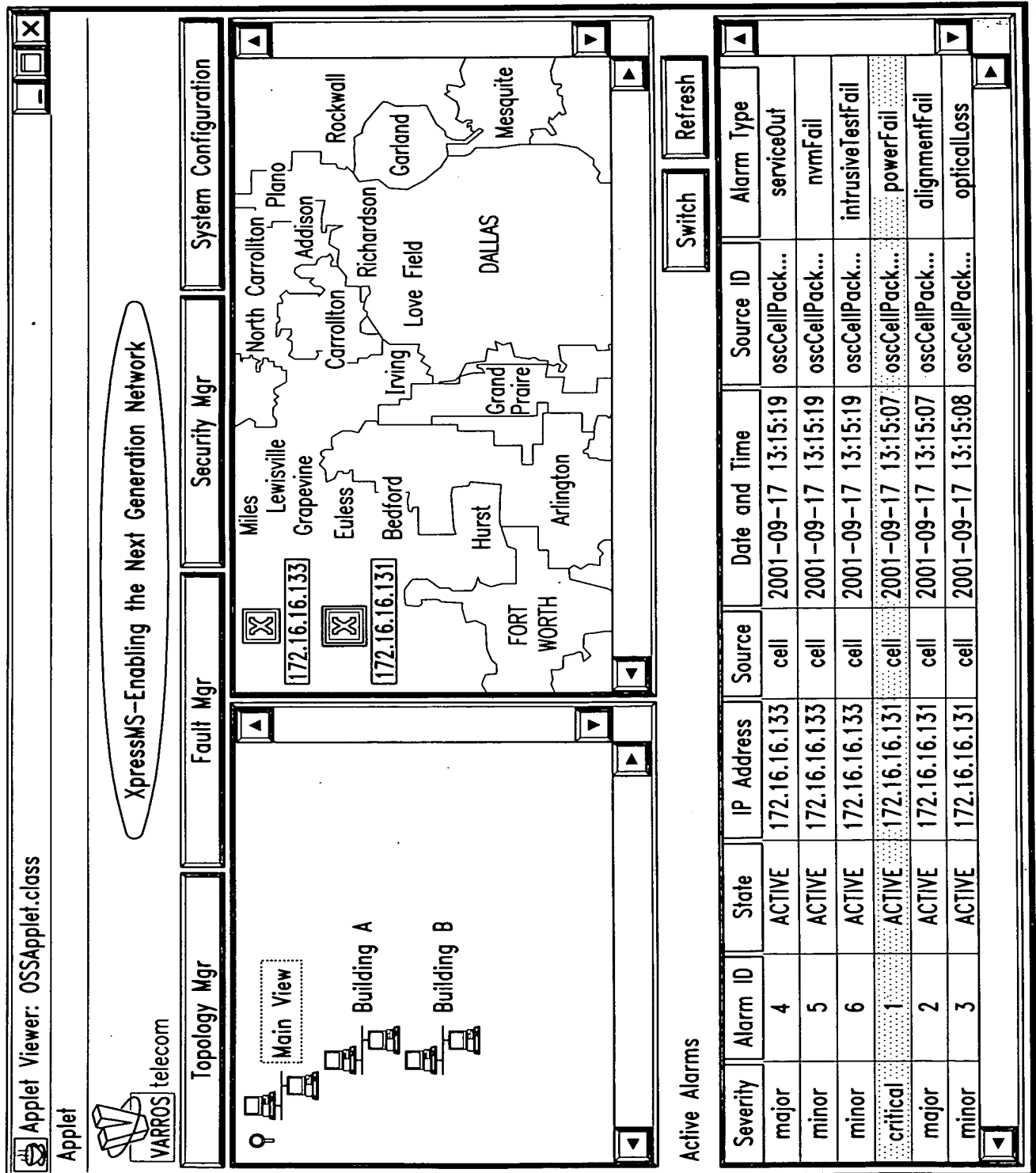


FIG. 30





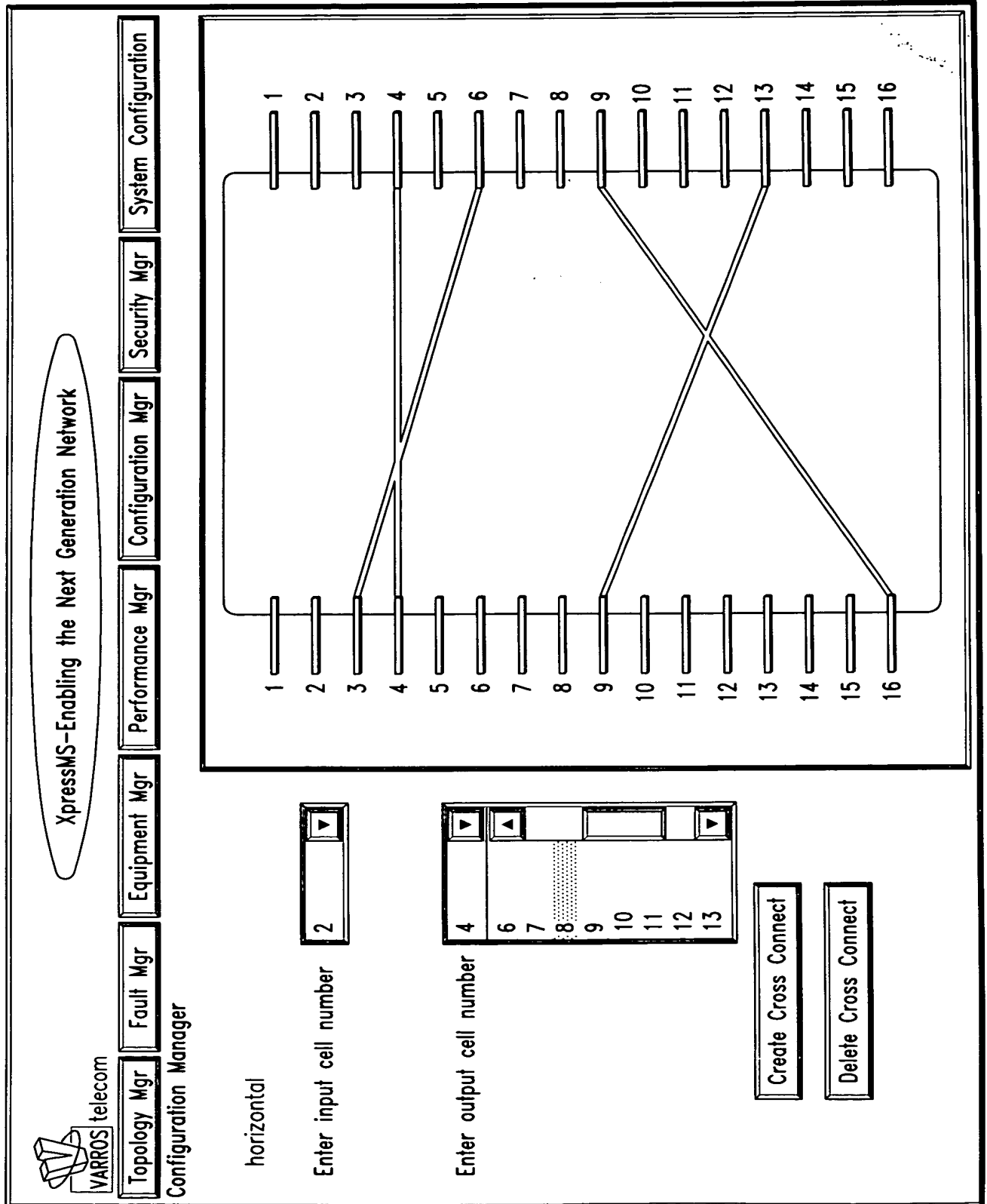
# Customizable Element Management System and Method Using Element Modeling and Protocol Adapters

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FIG. 31

<span style="font-size: 1.2em; font-weight: bold; vertical-align: middle;">XpressMS—Enabling the Next Generation Network</span>									
Equipment Manager	Topology Mgr	Fault Mgr	Equipment Mgr	Performance Mgr	Configuration Mgr	Security Mgr	System Configuration		
Card Properties									
172.16.16.151									
Detailed description of the main configuration area <p><i>(This section contains a large grid of status indicators and settings for various network components.)</i></p>							<div style="margin-bottom: 10px;">InputPower: 100</div> <div style="margin-bottom: 10px;">OutputPower: 1000</div> <div style="margin-bottom: 10px;">Size: 1</div> <div style="margin-bottom: 10px;">Status: FUNCTIONAL</div> <div style="margin-bottom: 10px;">PowStatus: ACTIVE</div> <div style="margin-bottom: 10px;">PowStatus: ACTIVE</div> <div style="margin-bottom: 10px;">Availability: 1</div> <div style="margin-bottom: 10px;">AdminState: LOCKED ▼</div>		
							Refresh    Get    Set		
							Ack    Clear		

FIG. 32



Applet Viewer: OSSApplet.class

Applet

VARROS telecom

XpressMS-Enabling the Next Generation Network

System Configuration

Topology Mgr

Fault Mgr

Security Mgr

Fault Manager

Severity	Alarm ID	State	IP Address	Source	Date and Time	Source ID	Alarm Type	Selection
major	2	ACTIVE	172.16.16.131	cell	2001-09-17 13:15:07	oscCellPack	alignment...	<input type="checkbox"/>
minor	3	ACTIVE	172.16.16.131	cell	2001-09-17 13:15:08	oscCellPack	opticalLoss	<input type="checkbox"/>
major	4	ACTIVE	172.16.16.133	cell	2001-09-17 13:15:19	oscCellPack	serviceOut	<input type="checkbox"/>
minor	5	ACTIVE	172.16.16.133	cell	2001-09-17 13:15:19	oscCellPack	nvmFail	<input type="checkbox"/>
minor	6	ACTIVE	172.16.16.133	cell	2001-09-17 13:15:19	oscCellPack	intrusiveT...	<input type="checkbox"/>
minor	7	ACTIVE	172.16.16.135	cell	2001-09-17 13:15:34	oscCellPack	opticalLoss	<input type="checkbox"/>
warning	8	ACTIVE	172.16.16.135	cell	2001-09-17 13:15:34	oscCellPack	batteryCo...	<input type="checkbox"/>

Alarm Filters

Severity: All

Host Name: All

Trap Type: All

From: 00:00:00 To: 00:00:00

(yyyy/mm/dd) (hh:mm:ss)

Instance Type: All

State: All

(yyyy/mm/dd) (hh:mm:ss)

Ack

Clear

Refresh

FIG. 33